

A REVIEW OF THE WORLD SPECIES OF *DYSPETES*
(HYMENOPTERA : ICHNEUMONIDAE)

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Dyspetes Foerster is a small genus of the tryphonine ichneumonids belonging to the tribe Tryphonini. Only three species are known so far: *D. arrogator* Heinrich (= *praerogator* Gravenhorst = *fracticeps* Townes) from Eurasia, *D. orientalis* Kasparyan from Eastern Palearctic Region and *D. rufus* (Provancher) from Canada. In the present paper three new species, *townesi*, *flavus* and *indicus*, are described from Japan, Burma and India, respectively. The genus is recorded from the Oriental Region for the first time.

The hosts of only *D. arrogator* are known. They are larvae of the family Tenthredinidae.

Genus **DYSPETES**

Dyspetes Foerster, 1869. Verh. Naturh. Ver. Rheinlande, 25: 201.

Type: (*Tryphon praerogator* of Gravenhorst, not Linnaeus) = *arrogator* Heinrich. Included by Thomson, 1883.

Dyspetus Thomson, 1883. Opuscula Entomologica, 9: 899. Emendation.

Taxonomy: Townes and Townes, 1950: 422. Perkins, 1962: 419. Townes, Momoi, and Townes, 1965: 105. Townes, 1969: 176. Kasparyan, 1981: 130.

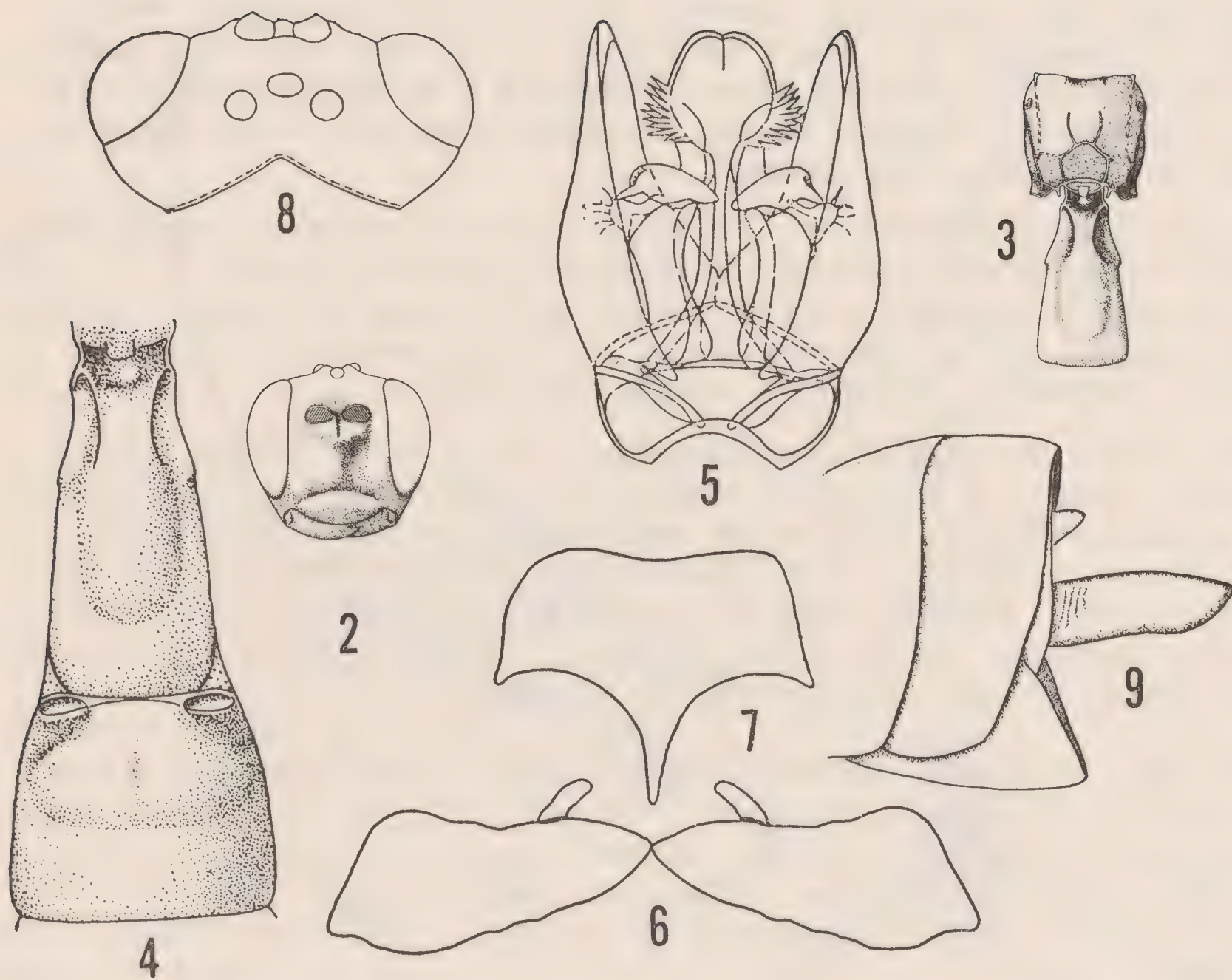
Moderately large, slender species, with slender antennae and long wings. Body largely closely punctate. Clypeus broad, with a median transverse crest, its base and apical margin each with a row of long hairs. Mandible moderately long. Malar space 0.5 to 1.0 as long as the basal width of mandible. Eyes slightly to moderately diverging ventrally towards clypeus. Occipital carina prominent, ridge-like, strongly convex to angulate medially above. Sometimes occiput notched at this point. Posterolateral corner of pronotum not thickened or projecting. Subtegular ridge sharp and high. Tegula convex. Propodeum various, strongly distinctly carinated (as in *rufus*) to almost without carinae but for the apical transverse carina. Areola usually defined by a smoother area when median longitudinal carinae indistinct or weak. Areola and basal area confluent but with a constriction at their junction. Propodeum punctate except in species with fully areolated propodeum. Areolet rhombic, wider than high, with a very short petiole above, receiving second recurrent vein near its middle or a little basal or distad of the middle. Second recurrent vein almost straight, with two well separated bullae. Nervellus intercepted usually at its lower 0.35 to 0.4, but in one species a little above the middle. Tarsal claws pectinate in their basal 0.3. Median dorsal carinae of first tergite represented by low rounded ridges. Dorsolateral carina of first tergite sharp to the level of spiracle, beyond which it is obsolete. Second tergite punctate, with postmedian and sublateral impressions that bound a median swollen area. Ovipositor sheath flat, decurved, flexible near the base, about 0.45 as long as the apical depth of abdomen. Ovipositor decurved, about as long as the apical depth of abdomen. Figure 1 depicts the generic characters. Figures 2-11 show other characters of the genus and the included species.



Fig. 1. *Dyspetes arrogator* Heinrich, female, generic characters.
(After Kasparyan)

KEY TO THE WORLD SPECIES

1. Propodeum fully areolated. Carinae strong. Costula strong. Propodeum with scattered punctures or rugosities, subpolished. Occiput with a shallow indentation in the occipital carina. Ovipositor weakly arched downwards. Body wholly rufous with some fuscous marks, especially in the male. Nearctic (Canada) 6. *rufus* (Provancher)
- Propodeum not fully areolated. Costula absent (except rarely in the males). Often only the apical transverse carina seen or weak median longitudinal carinae may be present bounding a smoother areola. Propodeum punctate. Occiput deeply notched or not so. Color black or yellow (one species from Burma) 2
2. Occiput with a deep cleft in the middle of occipital carina. Areola shiny, bounded by weak low carinae. Ovipositor strongly decurved 3
- Occiput without a median cleft. Occipital carina may be strongly angled in this region, but not forming a cleft. Areola variable: absent to present. Ovipositor strongly to weakly decurved 4
3. Scutellum convex, its lateral carina confined to its base. Frons without a median carina, or sometimes with an incomplete one. Mesopleurum and metapleurum with moderately dense punctures, with interspaces more than the diameter of the punctures. Claspers rounded and narrower apically. Female subgenital plate sparsely hairy at apex. Hind leg color variable: wholly black to wholly brownish-yellow. Fore and middle coxae usually brownish-yellow. Eurasia 1. *arrogator* Heinrich
- Scutellum flat, its lateral carina reaching almost to the apex and giving scutellum an angulate appearance. Frons with a median carina. Mesopleurum and metapleurum closely punctate, punctures minute to small, but dense and close together. Claspers broad, truncate apically. Female subgenital plate densely hairy at its apex. All coxae black. Hind leg black. Japan 2. *townesi*, n. sp.
4. Body wholly yellowish-brown with black lines on thorax. Frons with a shallow median groove and stans-striations laterally. Propodeum wholly punctate. Areola usually not clearly demarcated from the rest of propodeum 3. *flavus*, n. sp.
- Body wholly black, or abdomen banded with black and yellow. Frons without any groove or carina, closely punctate or rugulose. Areola demarcated by a smoother area, or propodeum uniformly punctate . . . 5
5. Second and the following tergites yellow, with broad black marks in the middle (extent variable, sometimes less yellow on tergites). Median longitudinal carinae of propodeum usually distinct, demarcating a somewhat smoother areola. Frons punctate. Mesopleural punctures not coarse, interspaces shiny and at least as much as the diameter of the punctures. Ovipositor weakly decurved. Second recurrent vein emitted from the middle of the areolet. Japan, Russia (Far East) 4. *orientalis* Kasparyan
- Abdomen wholly black. Propodeum without distinct areola or median longitudinal carinae, uniformly densely punctate. In males, however, weak carinae often seen. Frons rugulose. Mesopleurum closely



Figs. 2-8. *Dyspetes arogator* Heinrich : 2, Head, front view. 3, Propodeum and first tergite. 4, First and second tergites. 5, Male genitalia, ventral view. 6, Syntergites of male genitalia. 7, Subgenital plate. 8, Vertex. Fig. 9, *D. rufus* (Provancher), tip of female abdomen.
(After Kasparyan and Townes)

punctate, without smooth or shiny interspaces. Ovipositor strongly decurved. Second recurrent vein emitted from beyond the middle of the areolet. India. 5. *indicus*, n. sp.

1. *Dyspetes arrogator* Heinrich (Figs. 1-8)

Tryphon praerogator Gravenhorst, 1829. *Ichneumonologia Europaea*, 2: 127. Misdetermination of *Ichneumon praerogator* Linnaeus, 1758. Syn. by Townes, Momoi & Townes, 1965: 105.

Dyspetes arrogator Heinrich, 1949. *Mitt. Muenchen Ent. Gesell.*, 35-39: 107. F, M. Type M, Germany: "Haag a.d. Amper. Obb., May 1948" (Townes).

Dyspetes fracticeps Townes and Townes, 1950. *Ann. Ent. Soc. America*, 42(3-4): 421. New name for *praerogator* Gravenhorst.

Taxonomy: Kasparyan, 1973: 100. Hinz, 1976: 100. Kasparyan, 1981: 131.

This European species is apparently widespread in Eurasia. It exhibits different color forms, showing differences in the color of hind leg, antenna, etc., which are probably associated with different seasons or host associations. Hinz (1976) recognized two distinct subspecies within *arrogator*: (a) *Dyspetes arrogator arrogator* Heinrich, parasitizing *Aglaostigma aucupariae* (Tenthredinidae) and appearing in early summer (May) in Germany, and (b) *D. arrogator fracticeps* Townes and Townes (= *praerogator* Gravenhorst), parasitizing *Tenthredo* and *Tenthredopsis* species (Tenthredenidae) and appearing from June to August. Evidences on whether these differences are seasonal or whether the two taxa are also geographically isolated are inconclusive at the moment, as I find both color forms in collections made during July-August in Europe. Kasparyan (1981) considers the two forms as different generations (spring and summer-autumn) of the same species. The following description takes into consideration the variability within the species.

Male and Female: Face coarsely punctate, depressed near base of clypeus. Basal half of clypeus with distinct separated punctures. Frons punctate, with a faint incomplete median carina, which is often indistinct. Occipital carina strong, strongly angled medially above, and making a \wedge -shaped cleft in the occiput. Interocellar distance about equal to ocellular distance in female and about 0.8 in male. Malar space 0.75 (F) and 1.0 (M) the basal width of mandible. Mesoscutum with minute shallow punctures. Scutellum convex, indistinctly punctate, its lateral carina confined to its base. Mesopleurum and metapleurum with moderately dense punctures, with interspaces shiny and equal to or more than the diameter of the punctures. Punctures a little closer on metapleurum. Propodeum punctate, smoother in the region of areola. Areola incompletely formed. Costula absent, or partly faintly represented, with median longitudinal carinae angled in the region of costula. Apical transverse carina the strongest of all propodeal carinae. Nervulus interstitial or a little distad of basal vein. Second recurrent vein joining areolet in its middle or a little apicad of the middle. Nervellus intercepted at lower 0.35 to 0.4. Basal three tergites finely punctate. Rest of the tergites mat. Ovipositor strongly decurved. Subgenital plate folded medially and with sparse hairs at its pointed apex. Male claspers somewhat narrowed apically and obliquely truncate.

Color: Female: Black. Antenna brown to yellowish-brown. Fore and middle legs yellowish-brown. Hind coxa black to brown. Rest of hind leg yellowish-brown with apices of femur, tibia and whole of tarsus, blackish-brown. Tegula yellowish-brown. Wings with brownish tinge.

Male: Antenna black to brown. Hind leg largely blackish. Hind coxa black. Fore and middle coxae brown to brownish-black. Color of hind femur variable from black to yellowish-brown. Fore and middle legs usually yellowish-brown. The color variations are tabulated below:

Color variations in specimens examined from various localities and months.

Germany	May	Male	Antenna black. Hind leg black. Fore and middle coxae brownish-black. Legs otherwise yellowish-brown.
Germany	May	Female	Antenna and all legs brownish-yellow.
Germany	July	Male	Antenna black. Fore and middle legs and hind femur yellowish-brown. Hind coxa black. Fore and middle coxae brown.
Germany	July	Female	Antenna and legs reddish-brown. Hind coxa black.
Austria	July	Male	Antenna brown. Hind coxa blackish. Hind femur yellowish-brown. Fore and middle coxae yellowish-brown.
Italy	July	Female	Antenna yellowish-brown. All legs yellowish-brown. Hind coxa brown.
England	Sept.	Male	Antenna black. Hind coxa black. Fore and middle coxae and hind femur brown.
England	Sept.	Female	Antenna brown. All legs yellowish-brown, with hind coxa black.
Venlo	Sept.	Female	Antenna yellowish-brown. All legs yellowish-brown. Hind coxa brown.

Length: 7-12 mm. Fore wing 7-12 mm.

Specimens: Germany: "Haag, Amper. Ober Bayern", 1 M (paratype), 24. V. 1948, G. Heinrich (Townes). Berchtesgaden, Jennenmassiv, 1200 m., 1 M, 1 F, 10. VII. 1947 and 22. VII. 1947, G. Heinrich (Townes). Austria: Tirol, Scheffan, 800 m., 1 M, 25. VII. 1958, D. Townes. Italy: Franzenfeste, 1000 m., 1 F, 8. VII. 1958, D. Townes. Venlo, 1 F, 17. IX. 1942, Teunissen. Denmark: Copenhagen, 4 M, 1 F, 27. VIII. 1958, D. Townes. England: Oxford, Bagley Woods, 5 M, 10 F, 25. IX. 1960 and IX. 1980, H. Townes and D. Owen. Ireland, Wicklow Co., 1 M, 1 F, 22. VII. 1940, B. P. Beirne, Dublin Co., 1 M, 26. VIII. 1942, A. W. Stelfox (All Townes).

Hosts (vide Hinz 1961): *Tenthredo livida*, *T. rubricoxis*, *Tenthredopsis carbonaria*, *T. excisa*, *T. nassata*, and *Aglaostigma aucupariae*.

Distribution: Europe, USSR.

Uchida (1930) and others (see Townes, Momoi and Townes 1965: 106) reported *D. praerogator* from Japan. According to Townes *et al.* (1965) these records were erroneous. The specimens from Japan examined in the Townes Collection represent two species: *D. townesi*, n. sp., and *D. orientalis* Kasparyan.

Morley (1913) recorded this species from Darjeeling, India by a single female. This specimen could not be traced, nor any other specimen of it collected so far from India. Townes, Townes and Gupta (1961: 106) placed it as *Dyspetes* sp.

2. *Dyspetes townesi*, n. sp. (Fig. 10)

Male and Female: Face coarsely punctate. Clypeus punctate in basal half. Malar space 0.75 the basal width of mandible. Frons punctate, with a median carina. Occipital carina strongly angled medially above, forming a median \wedge -shaped notch. Interocellar distance 0.5-0.6 (female) to 0.8 (male) the ocellular distance. Mesoscutum with minute shallow punctures. Scutellum flat dorsally, with scattered punctures, shiny in between, its lateral carina extending to the apex of scutellum and giving it an angled appearance. Mesopleurum and metapleurum closely punctate, punctures smaller but close together. Propodeum punctate. Areola smoother and bounded by weak median carinae. Costula absent but median carinae angled in the region of costula. Apical transverse carina of propodeum distinct and circularly arched. Nervulus a little distad of basal vein. Second recurrent vein in the middle of areolet. Nervellus intercepted at lower 0.35-0.4. Abdominal tergites 1 and 2 finely punctate, 3 granulose, and 4 onwards mat. Abdomen sometimes a little smoother in the male. Ovipositor strongly decurved. Female subgenital plate weakly folded medially and with dense hairs at its pointed apex. Male claspers broad and truncate apically.

Black. Flagellum brownish apically. Clypeus reddish-brown apically. Mandible yellowish-brown. Tegula brown. All coxae black. Fore and middle legs yellowish-brown, with middle femur blackish-brown. Hind leg wholly black. Often fore and middle legs brownish-black and flagellum blackish in the male. Sometimes black color of body replaced by dark blackish-brown.

Length: 7-12 mm. Fore wing 8-13 mm.

Holotype: Female, Japan: Kamikochi, 31. VIII. 1954, Townes family (Townes).

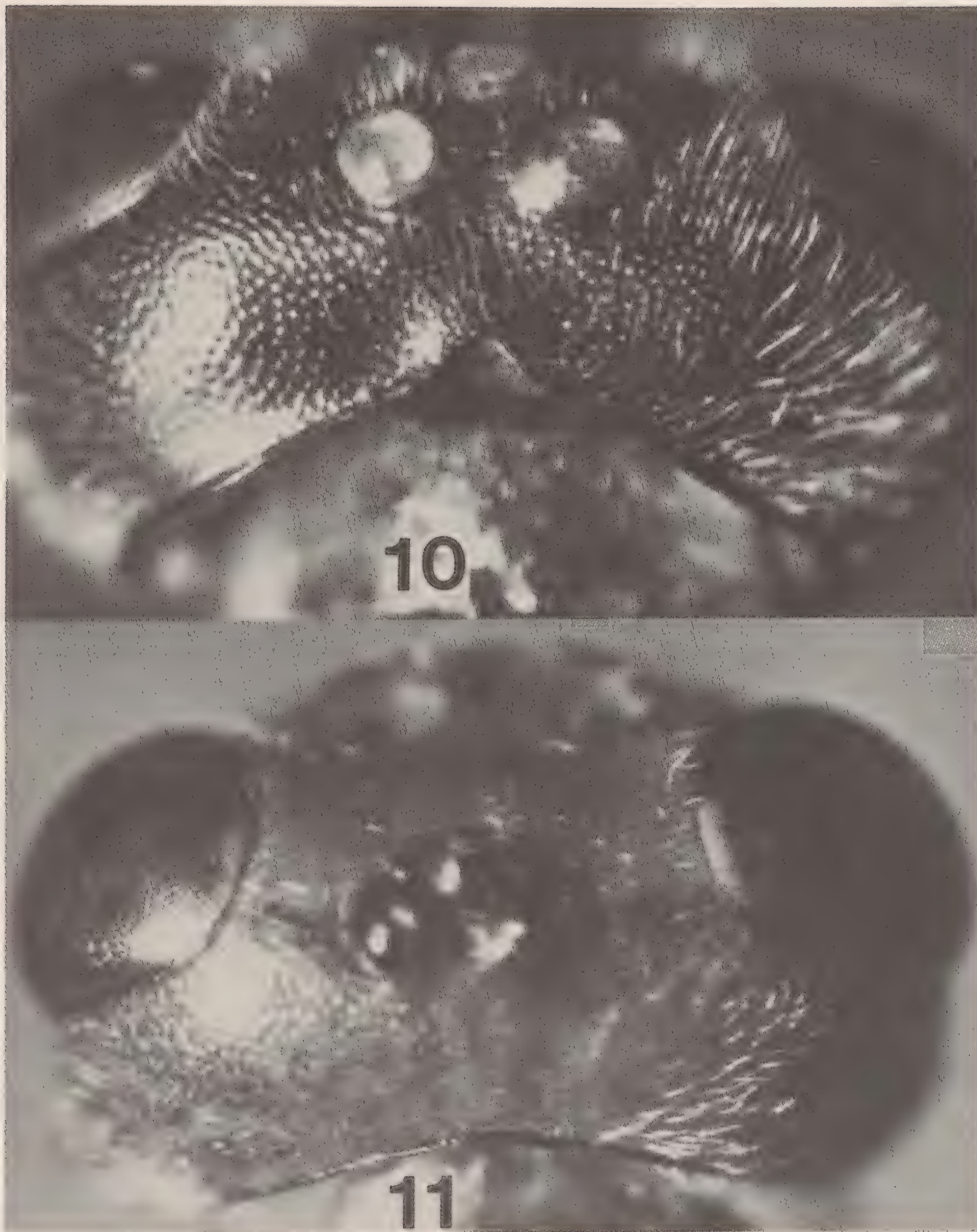
Paratypes: 62 M, 24 F, Japan: Kamikochi, 23-31. VII. 1954, Townes family (Townes).

Distribution: Japan: Honshu Island.

This species and/or *D. orientalis* have apparently been reported in the Japanese literature as *D. praerogator*. Townes *et al.* (1965: 106) considered these as misdeterminations and reported them as *Dyspetes* spp. from Japan, Kamchatka and Russia. Specimens from Japan in the Townes Collection represent both *D. townesi* and *D. orientalis*.

3. *Dyspetes flavus*, n. sp. (Fig. 11)

Male: Face punctate. Clypeus a little rugoso-punctate basally. Malar space 0.8 the basal width of mandible. Frons with a narrow median groove, trans-striate to striato-punctate laterally. Interocellar distance 0.7 to 0.8 the



Figs. 10-11. 10, *Dyspetes townesi*, vertex showing notched occipital carina. 11, *D. flavus*, vertex, showing rounded occipital carina.

ocellocular distance. Occipital carina roundly arched, without any angulation or indentation in the middle. Mesoscutum finely punctate. Scutellum flat dorsally and punctate, its lateral carina giving a weak angulation to the scutellum on the sides. Mesopleurum and metapleurum a little coarsely punctate, with punctures coalescing in the middle. Propodeum punctate. Median longitudinal carinae faint to absent. Areola absent or not properly formed. Nervulus interstitial. Second recurrent vein emitted from the center of areolet. Nervellus intercepted at upper 0.35 to 0.4. Abdominal tergites 1 to 3 punctate, rest granulose to mat. Male claspers broadly rounded apically.

Yellowish-brown. The following areas with blackish marks: Mesoscutal lobes, base of scutellum, upper "neck" region of pronotum, area along prepectal carina to subtegular ridge, sternaulus, mesosternum, mesepimeron, along sub-metapleural carina, basolateral aspects of tergite 1, and sides of abdomen. Apical abdominal tergites yellowish-brown. Hind tibia & apex of femur light brown.

Female: Unknown.

Length: 11 mm. Fore wing 11 mm.

Holotype: Male, Burma: Mt. Victoria, 2600 m, V. 1938, G. Heinrich (Townes).

Paratypes: 2 M, same data as the type (Townes).

Distribution: Burma.

4. *Dyspetes orientalis* Kasparyan

Dyspetes orientalis Kasparyan, 1976. Trudy Biologo-Pochvennogo Instituta, Novaya Seriya, 43(146): 108. M, F. des. Type: F, USSR: Sernovodsk (Leningrad). Kuril Islands. China. USSR.

Male and female: Face punctate, tending to be rugose at places. Clypeus with scattered punctures in the basal half. Malar space 0.4 to 0.5 the basal width of mandible. Frons punctate, without a carina. Interocellar distance about 0.6 to 0.75 the ocellocular distance. Occipital carina a little strongly curved or broadly angulate medially, but not forming any cleft. Mesoscutum finely punctate. Mesopleurum and metapleurum punctate, interspaces shiny and at least as much as the diameter of the punctures. Propodeum punctate, with its central area smooth or subpolished and with irregular punctures. Areola usually demarcated by weak to stronger median carinae, which are often angled in the region of costula, though costula absent. Apical transverse carina of propodeum strong and arched. Nervulus distad of basal vein. Second recurrent vein emitted from the middle of areolet. Nervellus intercepted in lower 0.35 to 0.4. Abdominal tergites 1 to 2 punctate, 3 with scattered punctures to mat, and rest of the tergites mat. Ovipositor weakly decurved. Female subgenital plate folded medially, with moderate hairs at its pointed apex. Male claspers slightly tapered and truncate apically.

Black. Clypeus reddish-brown. Mandible yellow. Antenna blackish in the male and yellowish-brown in the female. Tegula yellow. Fore and middle legs yellowish-brown. Coxae often brownish. Hind coxa and femur black, its trochanters, tibia and tarsus yellow with apical 0.3 to 0.5 of tibia black to blackish-brown. Abdomen black, with tergites 2 to 4 often yellowish-brown

and with a black central mark of various shape. Fourth and the following tergites largely black to largely yellowish-brown. Abdomen has a banded appearance.

Length: 7-11 mm. Fore wing 7-12 mm.

Specimens: Russia: 1 M, 1 F (paratypes), 16-20. VIII. 1973, Kasparyan Coll. (Townes). Japan: Kamikochi, 91 M, 64 F, 22-26. VII. 1954, Townes family (Townes). Mt. Norikura, 1500-2000 m, 1 M, 1 F, 30-31. VII. 1954, Townes family (Townes). Nagano Pref., 2 M, 2. VIII. 1931, Kaku Sato (Townes). Nikko, 1 F, 18. VII. 1931, J. L. Gressitt (Townes).

Distribution: Japan: Honshu Island, USSR, Kamchatka.

A male from India: Kumaon Hills: Dwali, 2743 m, 8. X. 1973 (Gupta Collection) comes close to *D. orientalis*, but has the occipital carina a little more strongly angulate medially above, tegula blackish-brown, middle coxa and hind leg wholly black, and abdominal tergites black with narrow apical yellow bands on tergites 2-4. It may represent an Indian subspecies of *D. orientalis*.

5. *Dyspetes indicus*, n. sp.

Male and female: Face punctate to rugoso-punctate. Clypeus flatter, somewhat rugulose to ruguloso-punctate. Malar space 0.7 to 0.85 the basal width of mandible. Frons rugulose to ruguloso-punctate, without any carina, a little smoother in the middle line. Interocellar distance 0.6 to 0.75 the ocellocular distance. Occipital carina strong, uniformly arched and rounded medially above. Mesoscutum finely punctate. Scutellum convex, closely finely punctate, its lateral carina confined to its base. Side of thorax closely punctate, punctures often coalescing and without smooth interspaces. Propodeum closely punctate, as is metapleurum a little rugulose medially, without a distinct areola or median longitudinal carinae. Apical transverse carina of propodeum also broadly erased medially. Nervulus distad of basal vein. Second recurrent a little beyond the middle of areolet. Nervellus intercepted at lower 0.35 to 0.4. Tergites 1, 2 and 3 finely closely punctate, the rest mat. Ovipositor strongly decurved. Female subgenital plate folded medially, its apex with sparse hairs. Male claspers broadly rounded apically.

Black. Clypeus, mandible, flagellum, legs, and tegula yellowish brown to reddish-brown. Flagellum basally often black. Face sometimes with a reddish-brown median mark. Hind coxa and tibia sometimes black marked.

Length: 10-12 mm. Fore wing 9-11 mm.

Holotype: F, India: Himachal Pradesh: Kalatop, 2438 m, 4. IX. 1971, JD 100 (Gupta).

Allotype: Male, India: Ahla, near Kalatop, 2286 m, 2. IX. 1971, JD 92, (Gupta).

Paratypes: 2 M, 1 F, Uttar Pradesh: Valley of Flowers, Garhwal Himalaya, VI. 1978, V. K. Gupta (Gupta). Nainital, 1939 m, in Kumaon Hills, 1 F, 7. IX. 1972, Gupta. Himachal Pradesh: Ahla, 2286 m, 2 M, 1 F, 16. IX. 1971, JD 92, JD 139. Kalatop, 2438 m, 7 M, 9 F, 31. VIII. to 17. IX. 1971. Simla Hills: Kufri, 8200 ft, 4 F, 12. X. 1966, J 180. Narkanda, 9000 ft, 2 F, 6. X. 1962, Gupta. (All Gupta).

Distribution: India: Uttar Pradesh and Himachal Pradesh Hills.

6. **Dyspetes rufus** Provancher (Fig.9)

Exetastes rufus Provancher, 1874. Nat. Canad., 6: 78. M, F. des.

Lectotype (designated by Gahan and Rohwer, 1917): F, Quebec (Ste Foy) (Quebec).

Male and female: Face moderately closely and strongly punctate. Vertex and ocellar area with well separated punctures, shiny in between punctures. Frons without a median carina; there may be a shallow groove instead of a carina. Occipital carina with a distinct angulation medially above, but occiput not notched at this point. Vertex depressed near the angulation in occipital carina. Mesoscutum shallowly punctate. Scutellum convex, its lateral carina extending up to 0.75 its length. Mesopleurum and metapleurum moderately coarsely punctate, punctures separated from each other by about 1.3 times their diameter. Propodeum fully areolated, its carinae sharp and high, with indistinct punctures or shallow rugosities. Costula sharp and distinct. Areolet receiving second recurrent vein a little basad of its middle. Nervulus a little distad of basal vein. Nervellus intercepted at its lower 0.4. Second tergite subpolished with weaker punctures separated by about 1.5 their diameter. Ovipositor sheath rather flat. Ovipositor not sharply decurved, only a little arched downwards.

Ferrugineous. Apical 0.4 of flagellum, fore and middle tibiae and all tarsi, fulvo-flavous. Mesosternum, hind femur, apical 0.25 of hind tibia, and second and third tergites faintly, often with blackish tinge. Male comparatively darker with fuscous marks on mesopleurum, mesoscutum, metapleurum, hind coxa, hind femur more fully, dorsum of propodeum and all abdominal tergites. Wings yellowish-hyaline.

Length: 9-10 mm. Fore wing 8.5-9.0 mm.

Specimens: Canada: Finland, Ontario. 1 M, 21. VII. 1960, S. M. Clark. North Branch, Ontario, 1 M, 23. VII. 1960, S. M. Clark. One Sided Lake, Ontario, 2 F, 24. VII. 1960, S. M. Clark and 1. VIII. 1960, Kelton and Whitney. Beause Joure, Manitoba, 1 F, 20. VIII. 1953. Brooks-Kelton (All Ottawa). North Branch, Ontario, 1 F, 23. VI. 1960, S. M. Clark (Townes).

Distribution: Canada: Ontario, Manitoba and Quebec.

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